[10191/4495]

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	Examiner: J. Boeckmann
Franz THOEMMES	
For: FUEL INJECTOR	
	Art Unit: 3752
Filed: May 31, 2006	
Serial No.: 10/564,226	

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office via the Office electronic filing system on ***October 18, 2010***.

Signature: /Kevin Kambo/
Kevin Kambo

REPLY BRIEF PURSUANT TO 37 C.F.R. § 41.41

SIR:

This paper is responsive to the "Examiner's Answer" dated August 18, 2010 in connection with the above-captioned application. For the reasons more fully set forth below and in the "Appeal Brief Pursuant to 37 C.F.R. § 41.37" ("the Appeal Brief"), it is respectfully submitted that the present rejections should be reversed.

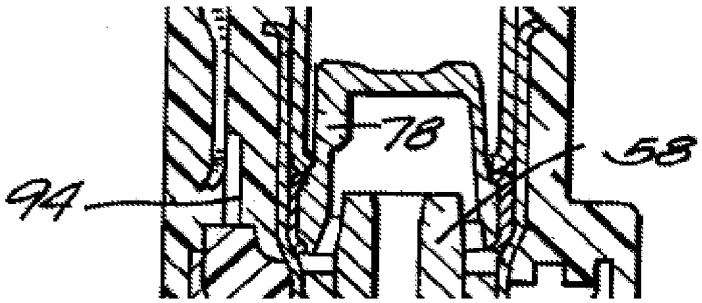
The Examiner's Answer repeats the rejection of claims 8, 10, and 14 to 22 under 35 U.S.C. § 103(a) as presented in the Final Office Action and adds a "Response to Argument" at pages 8 to 9.

In response to Appellant's arguments set forth in the Appeal Brief regarding the rejection of claims 8, 10, and 14 to 22 under 35 U.S.C. § 103(a), the Examiner sets forth three arguments divided into paragraphs 1, 2, and 3 at pages 8 to 9 of the Examiner's Answer. These arguments are addressed in turn below.

The Examiner's first argument, set forth at page 8 of the Examiner's Answer, is that although the jacket 14 of French et al. is fully capable of withstanding any forces exerted by overmolding, one of ordinary skill in the art would nonetheless thicken the walls of the jacket 14 to add even further strength to make the jacket "more suitable" for withstanding the pressures associated with overmolding. In Kobayashi et al. the upper portion of the tubular case 2, which has no interior reinforcement along its length during the

molding process, is thickened in order to prevent deformation during the molding pressures. At most, Kobayashi et al. teaches that a wall thickness of tube should be selected to prevent deformation during an overmolding process. In this regard, it is entirely unclear why the teaching of Kobayashi et al. would lead one of ordinary skill in the art to *further* thicken the walls of the jacket 14 of French et al., which are interiorly reinforced and disclosed as being entirely sufficient for an overmolding process, to provide added bulk and weight with no apparent benefit. Furthermore, it is noted that this argument in no way addresses the lack of a reason or rationale for making the upper portion of the jacket 14 of French et al. thicker than the lower portion of the jacket 14. This point is further addressed below.

The Examiner's second argument, set forth at page 9 of the Examiner's Answer, is that the extension tube 70 of French et al. does not extend along the entire length of the upper portion of the jacket 14, and therefore cannot support and strengthen the entire length of the upper portion of the jacket 14. Thus, the Examiner appears to imply that there are unsupported portions of the upper portion of the jacket 14 and thickening of the upper portion therefore would be advantageous. In this regard, the Examiner fails to address the additional structure, including filter 78 and the ring structure disposed between the filter 78 and the tube 70 and the jacket 14, reinforcing the remaining portions of the upper portion of the jacket disposed below then bottom edge. This structure is plainly present in Figure 1 of Kobayashi et al., which is partially reproduced below.



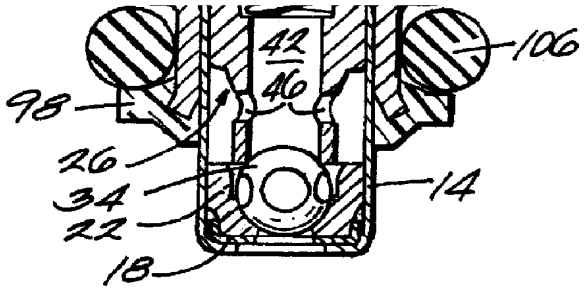
Moreover, it is noted that the overmolding of French et al. is applied *after* assembly of the fuel injector components. *See* French et al. at col. 6, lines 49 to 52. Thus, the Examiner's argument that the entire upper portion of the jacket 14 of French et al. is not supported by the tube 70 is entirely irrelevant, since it is plainly evident that the remaining portions of the upper portion of the tube 70 are supported by structure present in addition to the tube 70. That is, substantially the *entire length* of the upper portion of jacket 14 is interiorly reinforced by *either* the tube 70 *or* the additional structure plainly illustrated in Figure 1. Thus, any

contention that the upper portion of the tube 70 is not substantially reinforced along its entire extension is untenable.

Furthermore, as with the arguments at paragraph 1, the arguments at paragraph 2 in no way addresses the lack of a reason or rationale for making the upper portion of the jacket 14 of French et al. thicker than the lower portion of the jacket 14. This point is further addressed below.

The Examiner's third argument, set forth at page 9 of the Examiner's Answer, is that the injector of Kobayashi et al. has overmolding on both the upper section of the case 2 and the lower portion of the case 2, but that only the upper portion is thickened to withstand the pressures. Based on this assertion, the Examiner again asserts that the combination of Kobayashi et al. and French et al. would lead to the upper portion of the jacket 14 of French et al. being thicker than the lower portion of the jacket 14. This argumentation ignores a critical difference between the fuel injector of Kobayashi et al, and the fuel injector of French et al. In particular, as Appellant has previously indicated, the upper portion of the case 2 of Kobayashi et al. has no reinforcement while the bottom portion of the case 2 is reinforced by various structures, including, e.g., the core tube 8 and the valve seat 5. Thus, the reinforced bottom portion of the case 2 requires less strength than the upper portion of the case 2, which must, in and of itself, bear any pressure exerted during the overmolding. This need for additional strength in the upper portion of the case 2 leads to a differentiation in the wall thicknesses.

To the contrary, the upper portion of the jacket 14 of French et al. is substantially reinforced in all regions where the overmolding is applied, whereas the bottom portion of the jacket 14 has portions that are not reinforced, including the region where the overmolding 98 is applied. The partial reproduction of Figure 1 below shows the application of overmolding 98 to an unreinforced region of the lower portion of the jacket 14 of French et al.



In this regard, to the extent that Examiner asserts that one of ordinary skill in the art would vary the wall thickness long the length of the jacket 14 of French et al., the Examiner does not provide any explanation for why thickness of the lower, non-reinforced region of the jacket 14 would not be thickened with regard to the substantially reinforced upper portion, since this non-reinforced lower region would plainly be more susceptible to deformation in response to the overmolding pressures.

Moreover, the structure that appears most analogous to the upper portion of the case 2 of Kobayashi et al. is the extension tube 70, which—like the upper portion of the case 2 of Kobayashi et al.—extends from a middle region to the top end of the injector and includes at least a substantial portion that is not reinforced. Thus, if anything, the teaching of Kobayashi et al. would lead one of ordinary skill in the art to increase the thickness of the extension tube 70 rather than the reinforced upper portion of the jacket 14.

Further, Appellant notes that the Examiner asserts at page 9 of the Examiner's Answer that the upper portion of the case 2 of Kobayashi et al. is thickened to withstand "higher pressures." Although the meaning "higher pressures" intended by the Examiner is not clear, Appellant notes that there is no indication in Kobayashi et al., or French et al., that overmolding pressures differ as applied to different regions of the injectors.

As set forth above and in the Appeal Brief, the Examiner has not provided any valid reason or rationale in accordance with *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 U.S.P.Q.2d 1385 (2007) that would support the lead to the features of the pending claims based on the combination of French et al. and Kobayashi et al.

For at least the reasons indicated above and in the Appeal Brief, Appellant respectfully submits that all of the rejections set forth in the Final Office Action should be reversed.

Respectfully submitted,

/Clifford A. Ulrich/

Dated: October 18, 2010

By Clifford A. Ulrich, Reg. No.: 42,194, for:
Gerard A. Messina, Reg. No. 35,952

KENYON & KENYON LLP
One Broadway
New York, NY 10004
(212) 425-7200
CUSTOMER NO. 26646